

**Patent Claims**

1. A heat exchanger, in particular a charge air cooler for a motor vehicle, with at least one box with  
5 at least one chamber for distributing and/or collecting a flowing medium and with at least one tube bundle consisting of tubes which are connected in a communicating manner to the at least one chamber, the  
10 at least one chamber having a tube plate with orifices, into which the tubes of the tube bundle are insertable, characterized in that at least one tube has an at least double-walled construction at least in a region which is in the inserted state in an orifice of the tube plate.
- 15 2. The heat exchanger as claimed in claim 1, characterized in that an inner wall of the at least one tube bears at least partially over its area against an outer wall of the at least one tube.
- 20 3. The heat exchanger as claimed in claim 2, characterized in that the inner wall is soldered or welded to the outer wall at least at particular points.
- 25 4. The heat exchanger as claimed in one of claims 1 to 3, characterized in that an inner or an outer wall of the at least one tube is designed as a shaped sheet metal strip.
- 30 5. The heat exchanger as claimed in one of claims 1 to 3, characterized in that an inner or an outer wall of the at least one tube is designed as an extruded molding.
- 35 6. The heat exchanger as claimed in one of claims 1 to 5, characterized in that the at least one tube is designed as a flat tube and/or polygonal tube.

- 12 -

7. The heat exchanger as claimed in one of claims 1 to 6, characterized in that the at least one tube has at least one connecting web which connects mutually opposite regions of an inner wall to one another.

5

8. The heat exchanger as claimed in claim 7, characterized in that the at least one connecting web is constructed in one piece with the inner wall.

10 9. The heat exchanger as claimed in one of claims 1 to 8, characterized in that an inner wall has a depression on its outside.

15 10. The heat exchanger as claimed in claim 9, characterized in that the depression is of elongate design and a depth and/or width of the depression decreases in a longitudinal direction of the depression.

20 11. The heat exchanger as claimed in one of claims 1 to 4, characterized in that an outer wall of one tube is connected to at least one outer wall of an adjacent tube via at least one connecting element.

25 12. The heat exchanger as claimed in claim 11, characterized in that the outer walls of at least two tubes having at least one connecting element are constructed in one piece.

30 13. The heat exchanger as claimed in claim 12, characterized in that the outer walls are formed from at least two tubes having at least one connecting element as a shaped sheet metal strip.